Ophthalmology

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History taking:

Include:

- Personal data.
- Chief compliant.
- History of present illness.
- Previous ophthalmological history.
- Previous medical and surgical history.
- Drug history.

Loss of vision:

1- Gradual painless LOV:

- Cataract.
- Open angle glaucoma.
- Diabetic retinopathy.
- Tumor.

2- Sudden painless LOV:

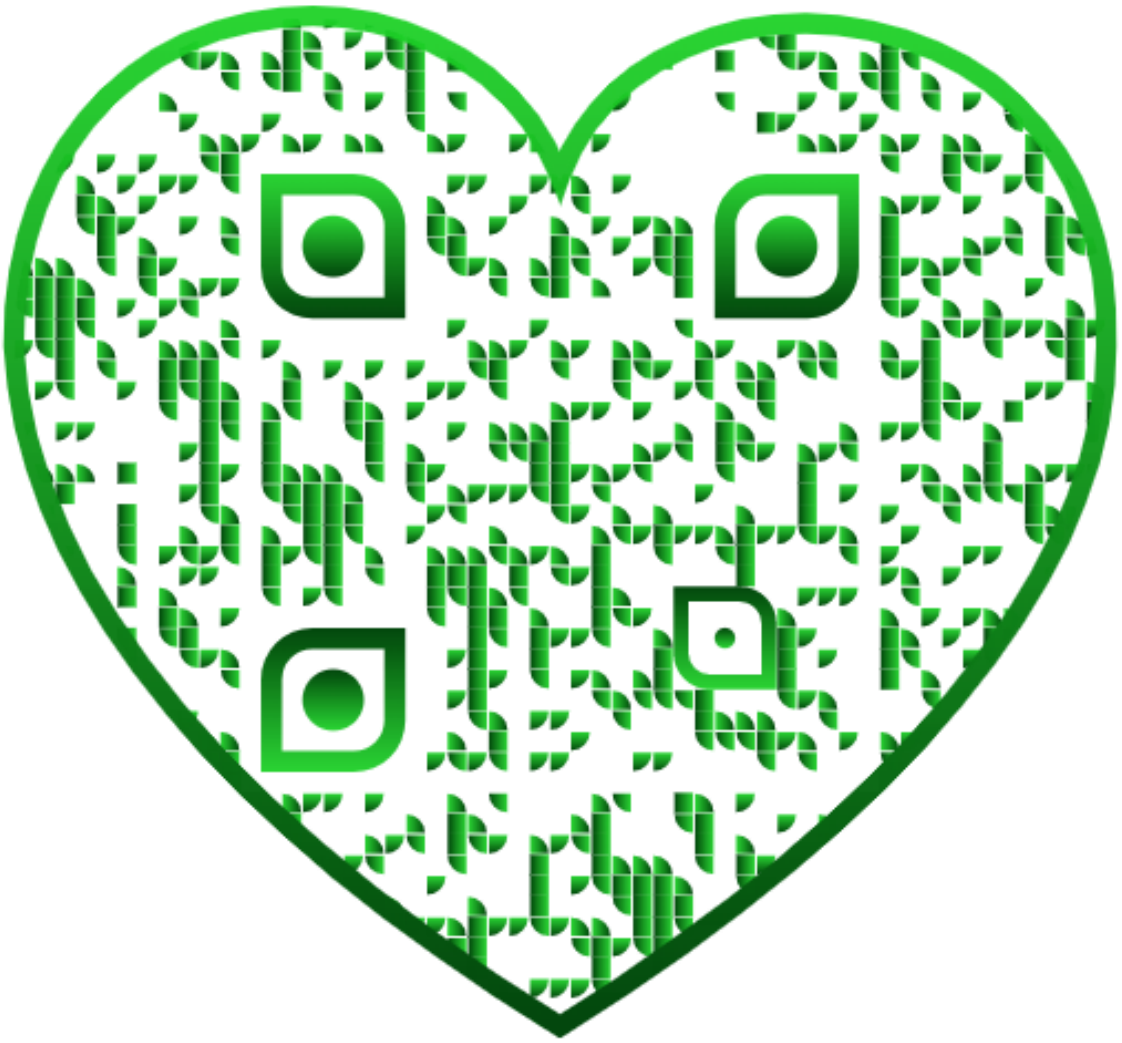
- Retinal detachment.
- Optic neuritis.
- Retinal venous occlusion.
- Retinal arterial occlusion.
- Vitrous hemorrhage.
- Sudden discovery of preexisting unilat pinguecula.

3- Painful LOV:

- Uveitis.
- Iritis.
- Close angle glaucoma.
- Keratitis.
- Trauma.

Red eye:

- Conjunctivitis.



- Keratitis.
- Iritis.
- Closed angle glaucoma.
- Scleritis and epi-scleritis.
- Blepharitis.
- Allergy.
- Trauma.

Side effects of corticosteroids eye drop:

- Flare up of pre-existing eye infection.
- Predispose for microbial keratitis (viral, bacterial, fungal).
- Inhibit collagen synthesis of cornea and predispose to corneal thinning.
- Cataract (chronic case).
- Open angle glaucoma (chronic case).

Indications of topical steroid in eye disease:

- Decrease inflammatory reaction in post ocular surgery (cataract operation).
- Inflammatory noninfectious disorders (iritis).
- Hypersensitivity to microbial antigens ➔ phlyctenular keratoconjunctivitis (under cover of topical antibiotics) Disciform keratitis (under cover of antiviral).
- Sometimes in non-severe microbial keratitis involving the axial part of the cornea to decrease scaring under the follow precaution:
  - Identify causative agent by lab investigations and giving appropriate antibiotic.
  - There is clinical response or treatment.
  - There is no thinning or impending perforation of cornea.
  - Contraindicated in pseudomonas, fungal, epithelial viral keratitis.
  - Patient must not immune compromised.
  - Close follow up (in hospital).

Contraindications of steroids:

- Active bacterial keratitis.
- Pseudomonas, fungal, epithelial viral keratitis.
- Immune compromised patient (D.M).
- Thinning or impending perforation of cornea.
- When we don’t know causative agent of disease.

- Severely infected and complicated eye disease that need management with antibiotics and follow up.
- No clinical response on treatment.

Symptoms	Conjunctivitis	Keratitis or corneal F.B	Acute iritis	Acute Glaucoma
Vision	not affected	depressed	depressed	depressed
Redness	+	+	+	+
Pain	1- F.B -Sensation 2- itching	Pain localized to eye	Pan localized to eye	Severe pain radiating
Secretion	-Watery -mucoid or -purulent	Watery	watery	watery
Photophobia	absent	mild	marked	mild
Systemic disorder	Sometimes e.g) adeno virus	none	50% assoccated w systemic disorders.	-Headache -Nausea -Vomiting

Red eye

Signs	Conj.	Keratitis or Corneal F.B	Acute iritis	Acute Glaucoma
Conj. Congestion	Conjunctival	Circumcorneal	Circumcorneal	Circumcorneal
Cornea	Normal	ulceration & Suppuration	Keratitic Precipitate	Oedema
Ant. chamber	Normal	-Cells -Hypopyon	Cells Hypopyon	Shallow
Pupil	Normal	-Constricted	-Constricted -irregular	-Fixed -mild dilated
Tension	Normal	-Normal	High Normal or Low	High

Effects of lesions in optic pathway on visual fields:

1- Blindness of the left eye.

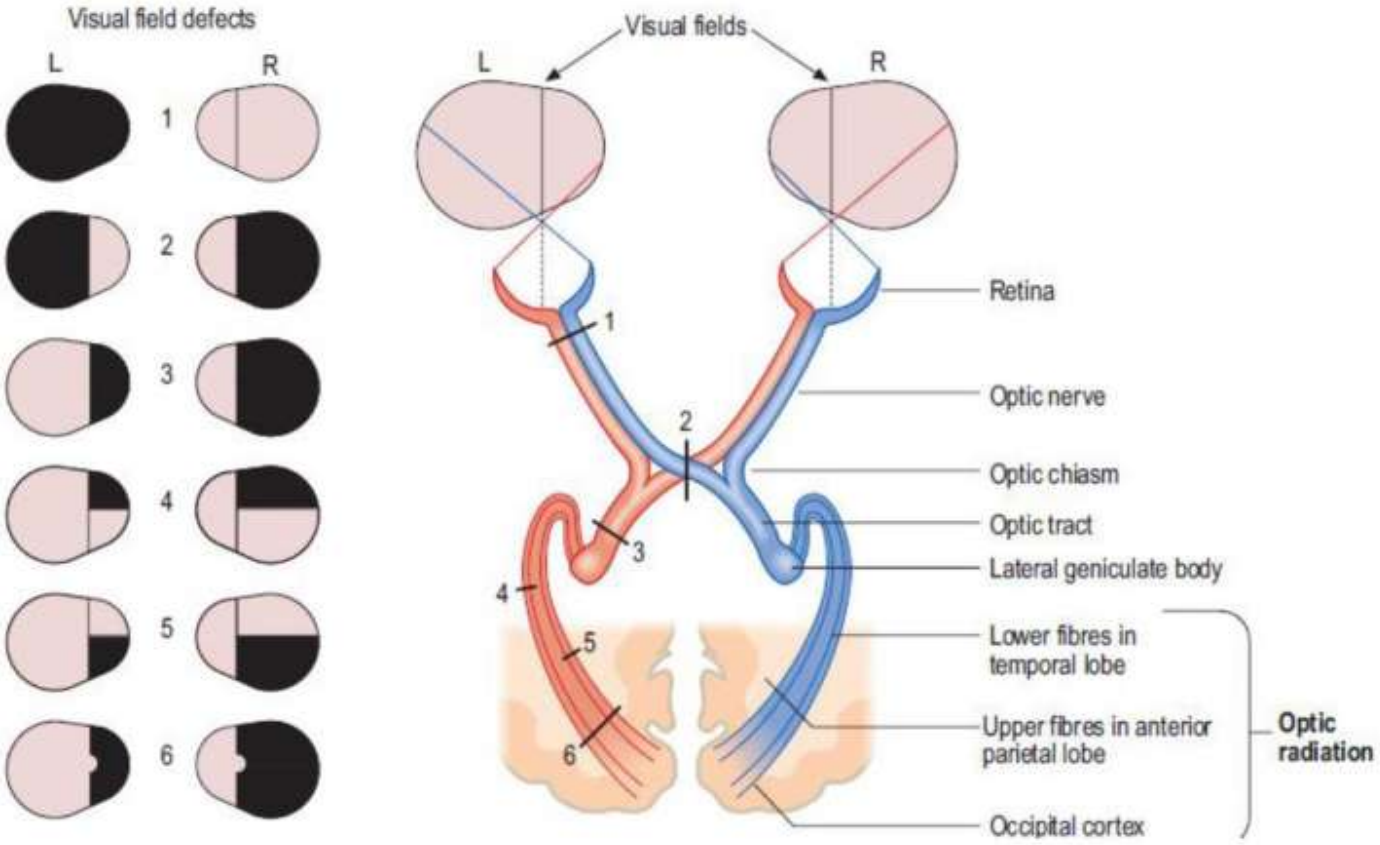
2- Biltemporal hemianopia.

3- Right homonumus hemianopia.

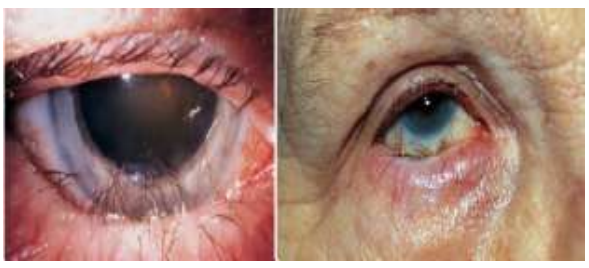
4- Right upper quadrantic hemianopia due to lesion of lower fibers of optic radiation in the temporal lobe.

5- Lower right quadrantic hemianopia due to lesion of the upper fibers of optic radiation in the upper anterior parietal lobe.

6- Right homonymus hemianopia lesion in optic radiations in the posterior parietal lobe here the light reflex is present.



Entropion:



Malposition (inward turning) of eyelid toward the eyeball with trichiasis (misdirection of the eyelashes toward the eyeball).

<u>Causes of entropion:</u>

1) Congenital (rare).
2) Acute spastic conditions such as infections, inflammatory & traumatic.
3) Cicatricial (scaring of the palpebral conjunctiva).

Causes of trichiasis:
1) Infections (trachoma, herpes).
2) Auto-immune (ocular cicatricial pemphigoid).
3) Inflammatory (Stevens-Johnson syndrome, vernal keratoconjunctivitis).
4) Trauma.

Complications (entropion & trichiasis):
1) Infections.
2) Corneal ulceration, corneal opacity.
3) Chronic conjunctivitis, conjunctival scar.

Treatment of entropion:
1) Eyelid hygiene.
2) Antibiotics to treat the causative microorganism.
3) Steroids.
4) Lubrication.
5) Small amount of botulinum toxin (BOTOX).
6) Surgical repair (Lateral canthotomy, lateral canthoplasty).

Treatment of trichiasis:
1) Treatment of the underlying disease (Stevens-Johnson syndrome & ocular cicatritial pemphigoid).
2) Lubrication.
3) Treatment of infection.
4) Surgery (follicle destroying or lash/follicle repositioning).

Ectropion:

Abnormal eversion (outward turning) of the lower eyelid margin away from the globe.

Patient complaint: Lacrimation.

Causes:
1) Congenital.
2) Acquired:
   a) Senile.
   b) Paralytic (facial nerve palsy).
   c) Cicatricial (due to scar) such as burns, glaucoma drops and chronic dermatitis ….etc.
   d) Mechanical (tumor) such as neurofibromas.

Complications:
1) Conjunctival keratinization.
2) Corneal breakdown (ulceration)
3) Epiphoria (watery eye: tears flow onto the cheek).
4) Pain.

Treatment:
1) Treatment of infection (Chlamydia, herpes).
2) Lubrication.
3) Steroid.
4) Surgical repair (V to Y plasty or Z plasty).

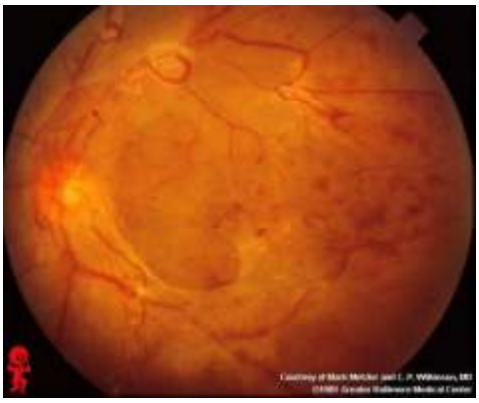
Diabetic retinopathy:

The problem is in the vessels.

<u>First type ➔ leakage (non-proliferative diabetic retinopathy)</u>

- Loose pericyte of vessels wall.
- Features:
  - Hemorrhage ➔ red dots.
  - Transudate (edema) ➔ change in color.
  - Exudate (lipoprotein) ➔ golden yellow lesion.
  - Aneurysm ➔ red dots near blood vessels.
- Site of leakage: close it by laser.

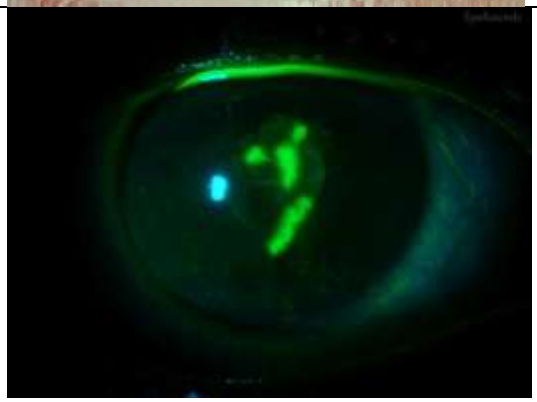
<u>Second type ➔ occlusion (proliferative diabetic retinopathy)</u>



- Because viscosity of blood increase and platelets aggregation increase and vessels wall thick due to hyperplasia of tunica media and RBC stick with each other called roloux formation lead to ischemia in the periphery.
- Vascular endothelial growth factor:
  - Produce new blood vessels that is fragile and lead to hemorrhage.
  - Produce fibrosis could lead to retinal detachment.
- Features:
  - Ischemia.
  - Fibrosis.
  - New vessels.
  - Localized area of ischemia called cotton wall spots.
- Site of ischemia: photocoagulation, this destroy new vessels but the fibrosis not destroyed, and this procedure not lead to any problem to the patient.

Proliferative diabetic retinopathy
هنا بعد استخدام الليزر (المناطق السوداء ليزر قديم
والمناطق البيضاء ليزر جديد)

Description	Photo
Cataract and dilated pupil Any opacity in the lens is cataract (affect the vision or not). Causes of cataract: 1-age (commonest) 2-congenital 3-drugs like steroid 4-radiation 5-trauma Causes of dilated pupil: 1- Drugs (sympathomimetic, anticholinergic) 2- Third CN palsy (parasympathetic damage) 3- Optic nerve damage 4- Traumatic mydriasis (damage of sphincter muscle) Assess the state of fundus by: 1- Visual acuity. 2- Light perception (+ve other disease, -ve optic damage). 3- Light perception (from which side the light come?). 4-pupillary reflex 5- Color discrimination (done by put color filter in the slit lamp, it is used to check the function of optic nerve). 6- B scan US. Treated by surgery (extraction of lens).	
Hyphema (blood in the anterior chamber) **+ subconjunctival hemorrhage + dilated pupil** Cause: trauma. Cause of hyphema: Trauma is the major cause, surgery (during & after), intraocular tumors, anticoagulant treatment. Assess IOP: 1- The blood will block the trabecular meshwork space → no drainage → high IOP. 2- Wound on sclera or other parts → leak of eye fluid → low IOP. Treatment: 1-bed rest with head elevated 2-anti-glucoma drugs if increased IOP 3-drainage of blood if high amount	

Subconjunctival hemorrhage Ask the patient about➔ trauma, straining (cough, vomiting), bleeding tendency, drug.	
HSV-1 eye lesion Branching greenish discoloration of the cornea = dendritic ulceration due to HSV-1 infection. The color of fluorescence is orange but here we see it greenish because we use the slit lamp filter. Fluorescence stain has affinity to collage fibers, so areas of no epithelium or removed epithelium will be stained by the florescence stain. <u>Treatment</u>: Acyclovir, trifluridine, idoxuridine.	
Ameboid ulcer Cause: Mistreatment of dendritic ulcer by steroid.	
Geographical ulcer Fluorescein stain showing ulcer in the cornea. Cobalt blue filter in slit lamp. <u>Causes:</u> 1-steroids 2-chemical substances 3-bacterial infections 4-F.B. 5-trauma 6-contact lens users <u>History:</u> patient with HSV-1 wrongly treated by steroid <u>Treatment:</u> 1- according to the cause 2- gradual decrease in steroids 3- antiviral (if dendritic) 4- patching and soft bandage (if traumatic)	

Corneal ulceration

-Fluorescein stain showing corneal ulceration
-Same causes of any ulcers
-If we see pus in the anterior chamber (Hypopium) the cause is bacterial.

Dacryocystitis

Cause: obstruction of the nasolacrimal system.
Most common organism is staphylococcus.
Presentation: painful swelling on the medial side of the orbit, which is the enlarged, infected lacrimal sac.
Treatment:
1- Systemic antibiotics 2- Dacryocystorrhinostomy (DCR) to prevent recurrence.

Corneal arcus (lipidis) or arcus senilis

What is the clinical significance? It indicate hyperlipidemia in young people which may causes systemic diseases.
What is the visual prognosis? It never affect vision(never reach cornea)

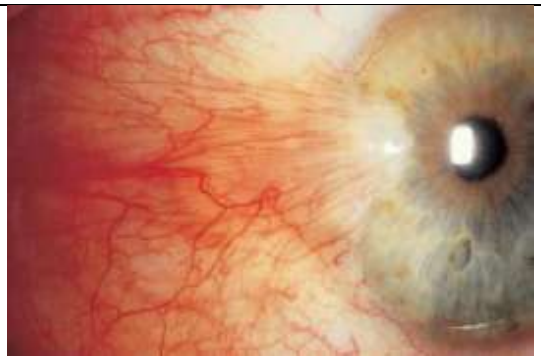
Facial palsy on R. side with lagophthalmos & Bell's phenomenon

Presentation: Mouth deviated to the left side, cannot close right eye, eye pulled upward (bell's phenomina).
Significance? Exposure keratopathy
How do you treat the eye of this patient?
1-artificial tears in days
2-closure of eye at sleep (taping)
3-If chronic do surgery (lateral tarsorraphy)
4-shield glasses

Congenital failure of canalization of right nasolacrimal duct

What is the presentation of this child? Lacrimation on right side(epiphora) or conjunctivitis
What is the proper management?
1-reassurance of parents
2-topical AB with massage till the end of the first year
3-if not opend (after the first year, most open spontaneously during the first year) probing and irrigation with antiseptic solution

Ptergyium



Describe this lesion: Localized redness located at nasal corner of the eye, triangular in shape with the apex extend to involve cornea due to fibrovascular ingrowths

Causes?

1- reflected or direct UV light exposure 2- irritation
3- Exposure to irritant materials (dust, smoke…)
4- SCC (mass) 5- fibrosis due to injury

Treatment? Surgical removal with conjunctival graft

What are the indications of surgery in this patient?

1-affect visual axis. 2-severe discomfort. 3- cosmetic.
4- poor vision. 5- dryness of cornea. 6-astigmatism.

Subconjuctival hemorrhage

What will you ask in the Hx? 1-history of trauma, straining conditions (vomiting, constipation, cough)
2-history of hypertension. 3-bleeding tendency.
4-history of drugs: anticoagulants and NSAIDs.

Management: assurance of patient, resolved after 10-14 days, it is simple condition put if the patient want treatment you can give artificial tear or lubricants.

Membranous conjunctivitis

What are the possible causes?

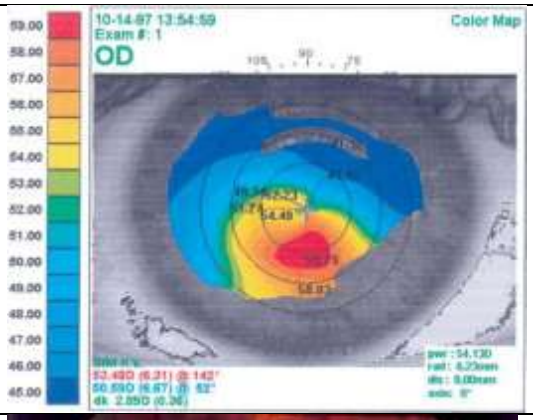
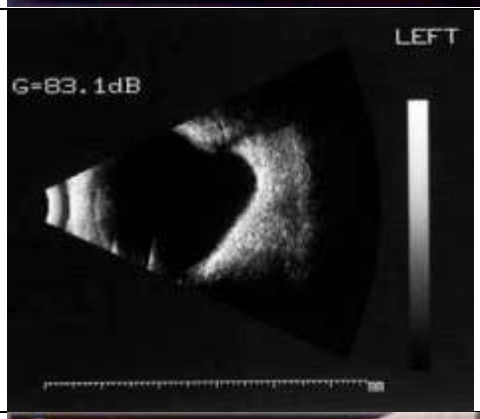
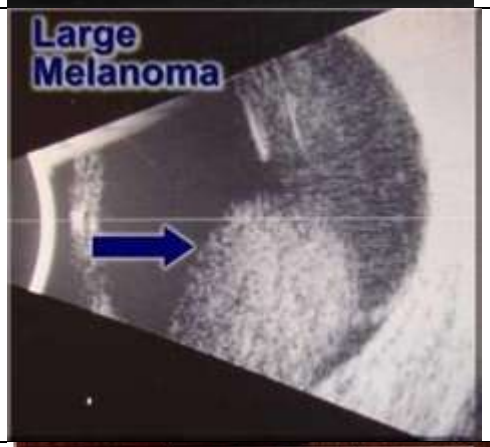
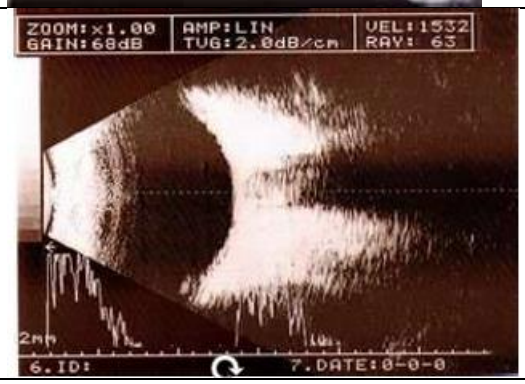
1-true membrane: diphtheria.
2-pseudomembrane: most bacteria like staph + adenoviral infection.

What is this sign? Papillae on the inner surface of upper lid (giant cobblestones papillae)

What are its causes? vernal keratoconjunctivitis, allergic conjunctivitis: atopic, seasonal, giant papillary conjunctivitis.

Treatment:

Avoiding exposure to the causative allergen, topical steroids, mast cell stabilizers, antihistamine, dark glasses & cold compresses.

Corneal topography Color coded map used for studying the shape, curvature, refractive power of cornea in every point with details.	
Staphyloma -Occur in high myopia as the globe is large. -Thinning of retina, bulging, exposed sclera.	
US in high myopia	
US showing large melanoma	
B scan sonography showing the vitreous cavity	

Leukocoria & pseudosquint

Describe the lesion? Right white pupil.
Enumerate the most common causes according to their frequency?
1-congenital cataract.
2-retinoplastoma.
3-retinal fibrosis.
4-persistent hyperplastic primary vitreous.
5-retinopathy of prematurity.
Cause of pseudosquint: Epicanthal fold.

Scleritis

Symptoms/Signs: Pain, Significant ocular tenderness to movement and palpation, Watering, photophobia.
Etiology: immune, associated systemic disease, connective tissue disease, rheumatoid arthritis.
Treatment: underlying condition, NSAIDs, corticosteroids, immunosuppression.

Episcleritis

Symptoms/Signs: Often asymptomatic, Mild tearing/ irritation, Tender to touch, Self-limiting (may last for months).
Treatment: Lubricants, NSAIDS, Rarely low dose steroids.

Goldmans applanation tonometry

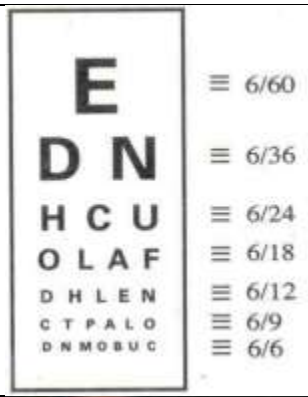
Put florescence stain to the tear film then press the external surface of eye by the tonometer and when it become flat it means equalization of the pressure inside and outside the eye, and the semi-circles will meet each other, so take this point as IOP.

Schiotz tonometry

There are 3 things here:
1- Weight (g).
2- Degree of corneal indentation (mm).
3- Table of pressure measurement.
Pressure reversely related with the indentation.

Snellen's test

For assessment of visual acuity



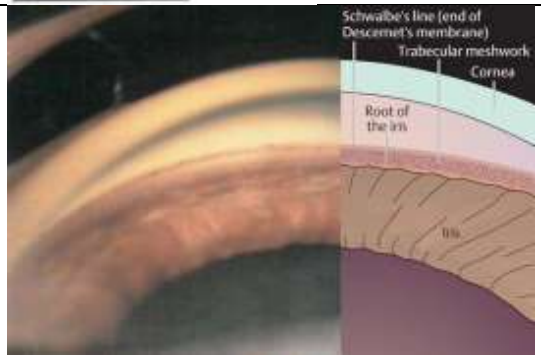
<u>By using which test we can get this view?</u>

1- Gonioscopy (visualization of the angle of the anterior chamber = irido-corneal angle)

2- With goniolens (for detecting glaucoma).

<u>Describe the aqueous circulation:</u>

It is produced by the ciliary process of ciliary body >posterior chamber >pupil> anterior chamber >trabecular meshwork> Canal of Schlemm>extraocular veins.



Measurement of AC depth

<u>Comment on the AC depth:</u> Shallow anterior chamber depth.

<u>If this patient is asymptomatic, how you treat him?</u>

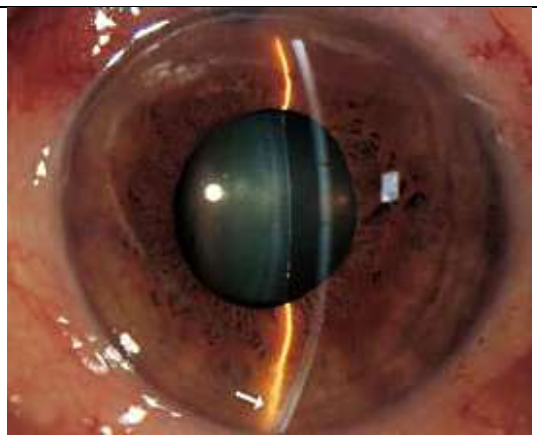
1-Medical Tx: mitotic agents ,alpha agonist, b-blocker, carbone anhydrase inhibitor, prostaglandin analogs

2-peripheral laser iridotomy (YAG laser)

*it consider pre-glaucoma so it is urgent.

3- hypermetropia: convex lenses.

4- Treatment of glaucoma: pylocarpin, iridotomy



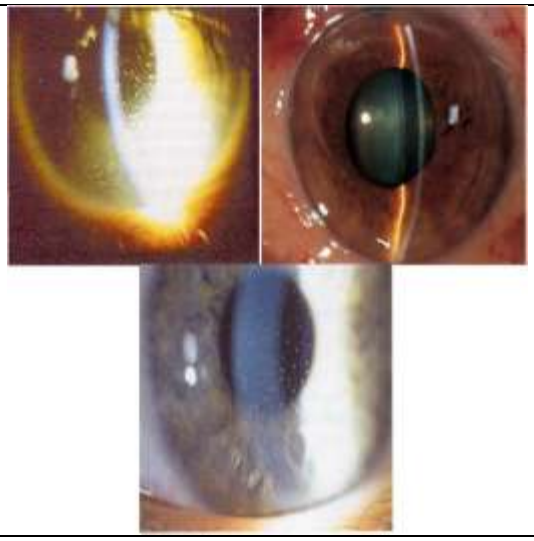
<u>Comment on the anterior chamber depth:</u>

1) Eclipse sign: we shine a light on the temporal aspect of the patient anterior chamber & watching the iris, if the AC is deep the whole iris is illuminated, if the AC is shallow, only the temporal part is illuminated.

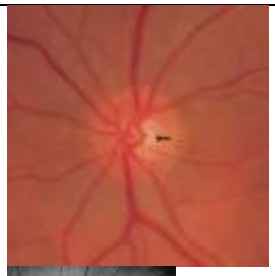
2) Important in angle closure glaucoma.

<u>If this patient is asymptomatic, how would you treat him?</u>

Miotic agents, alpha agonist, carbonic anhydrase inhibitors and prostaglandin analogs.

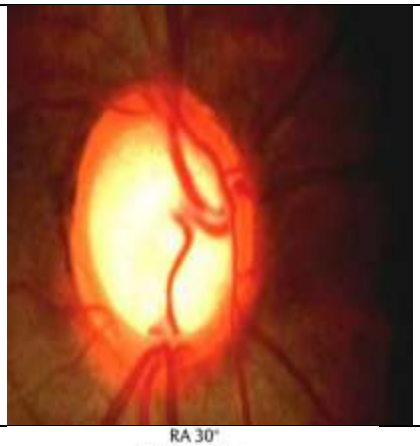


Abnormal cupping of the optic disk (CD ratio > 0.3)
Normal cup:disk ratio 0.3 – 0.4
If CD ratio increase it means there is large cup.
<u>Cause:</u> primary open angle glaucoma
<u>Criteria of cupping:</u>
1-cup:disk ratio > 0.3.
2-progressive enlargement
3- asymmetrical between the two eyes.
<u>Criteria to diagnose glaucoma:</u>
1) Increased IOP. Normally 15±6 mmHg.
2) Abnormal cupping.
3) Changes in visual field.

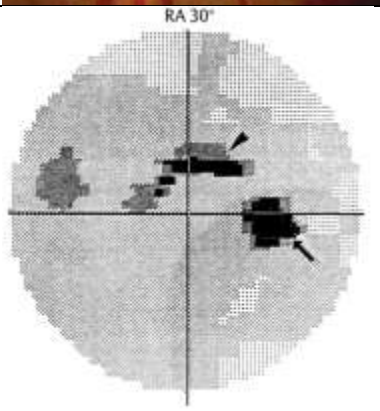


Glaucomatous cupping of optic nerve

-Expected field of vision: Tubular field.

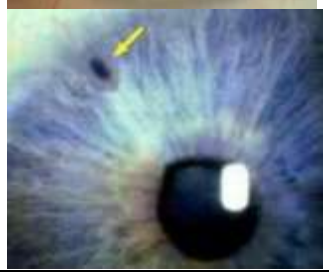


Automated static perimetry (visual filed)
perimetry graph showing paracentral scotoma in open angle glaucoma
-No patient complain
-Diagnosed by chance



Peripheral laser iridotomy

Indication:
Shallow anterior chamber (angle closure glaucoma) so we do it to make direct shunt between anterior and posterior chambers.



Posterior capsule opacification

Treatment: YAG laser capsulotomy ➔ to open thickened posterior capsule after cataract surgery.

Dx: Red congested eye (acute angle closure glaucoma) with corneal edema, ciliary flash and dilated pupil.

Features:
Painful red eye.
Achy, abdominal pain.
Misty vision.
Go from light into dark.
Small eye, shallow anterior chamber.
Pupil mild dilated.
Iris lens contact.
Push the iris forward.
Eye feels hard.

Measuring corneal diameter by caliber

Why?
To detect and follow up congenital glaucoma (buphthalmos)

Slit lamp

Uses:
1- Examine the anterior segment of the eye.
2- Examine the posterior segment with special lenses.
3- Measure the IOP with Goldman aplination tonometer.

Added lenses:
1-Goldman 3 mirrors contact lens (use topical anesthesia, vescoelastic substance).
2-Central lens.
3-Dome shape lens (goniolens): used to see iridocorneal angle (the test called gonioscopy).
4-Plus lens 78D (convex lens).

See: upside down and laterally reversed image (real image) by using this instrument.

Direct ophthalmoscope

1-Portable, light instrument.
2-Examine the patient in any position (lying, setting, standing).
3-Not specialized instrument (used by general physician).
4-Cause magnification X15 times so see narrow field.
5-We can see the fundus without dilatation of it.
6-The image seen here is erect (virtual image).
7-This examination is affected by refractive error of the patient so use the lenses inside this instrument.
8-Right eye-right hand-right eye.

Indirect ophthalmoscope

1-It is specialized instrument.
2-Need special training, difficult to use.
3-Magnification 3-5 times depend on the lens we use so not see the fundus directly.
4-The field here is larger than in direct method.
5-Examine the patient with your both eyes.
6-Should dilate the eye of patient.
7-Not affected by refractive error of patient.
8-The 3D image (with depth) because we use both eyes.
9-During retinal surgery the indirect ophthalmoscope is instrument of choice.
10-Use +20 or +30 lens.

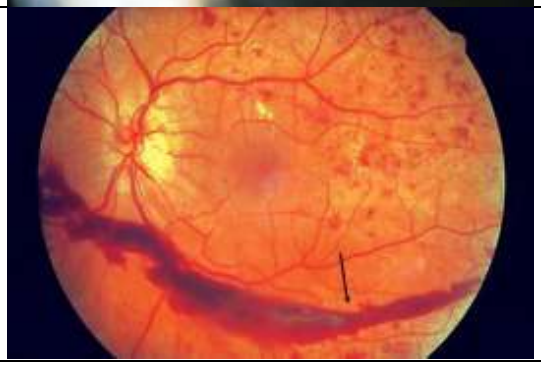
<u>Describe this corneal lesion</u>: Dendritic ulcer

<u>What is the most likely diagnosis</u>? HSV type 1

<u>How would you treat</u>? Antiviral drugs (acyclovir , trifluoridine and idoxuridine) // avoid steroids.

Subhaloid hemorrhage

Hemorrhage between retina & vitreous



Retinitis pigmentosa

Bone spicules, waxy disc & attenuated blood vessels.

Patient complains:

1-night blindness (nyctalopia).

2-visual loss

3-seeing flashes of light (photopsia).

Mention 2 syndromes associated with it.

1-bardet biedl syndrome

2-refsum syndrome

3- Autosomal dominant / recessive

Central retinal venous occlusion (CRVO)

Congested dilated blood vessels.

History (ask about):

Hypertension, hyperlipidemia, DM, smoking, obesity, life style, psychological problems, stress.

Causes:

1) Extraluminal causes: hypertension & tumor.

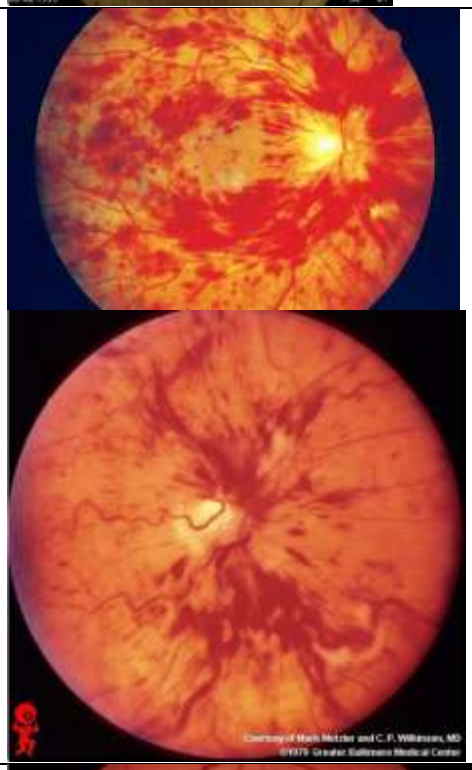
2) In the wall: vasculitis.

3) Intraluminal: thrombus.

Complications:

1) Neovascular glaucoma.

2) Chronic macular edema.



Branch retinal vein occlusion

Occlusion of the lower temporal branch of retinal vein marked by hemorrhage and multiple spots (cotton wool spots) of ischemia in the lower temporal zone of retina

Occlusion of Lower temporal and lower nasal branches of retinal artery a marked by complete ischemia

Central retinal arterial occlusion (CRAO)

Attenuation & constriction of the arteries (cattle track appearance), the whole retina is pale except the fovea (cherry red spot) due to double blood supply.

Causes: Usually embolic.

History: ask same questions in venous occlusion.

Could lead to neovascular glaucoma (due to occlusion of iris root by new vessels).

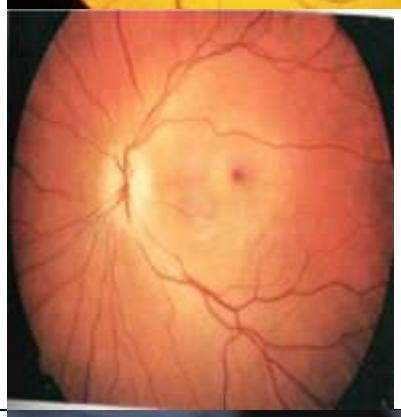
DDx For cherry red spot:

-Commotio retinae

-Quinine poisoning

-Macular hole surrounded by RD

-Amauratic family idiocy



Filamentray keratitis

Stain: rose bengal stain

Causes : 1-dry eye 2-sjogren syndrome

3- facial palsy 4-blepharoptosis

Presentation: patient with dry eye and the mucin become thick and adhere to the cornea and give sensation of F.B.

Hypopium

It is pus in the anterior chamber

Causes:

1- Infected: endophthalmitis (pneumococcus).

2- Sterile: severe iritis.

3- keratitis.

4-any inflammation or infection.

Hypopium with cloudy cornea and red eye

Describe this lesion?

Nodulo-ulcerative lesion ➔ Oval, elevated, ulcerated, congested, dirty lesion on the lower lid

Differential diagnosis?

1-basal cell carcinoma
2-sequamous cell carcinoma
3-sebaeous cell carcinoma
4-keratoacanthoma
5-malignant melanoma

Chalazion

Describe this lesion Localized swelling in the upper lid with normal skin over it

Enumerate four causes

1-chalazion 2-stye 3-sebaceous cell carcinoma
4-haemangioma 5-blockage of tarsal glands
6-Seborrhea 7-Chronic blepharitis 8-Acne rosacea.

How would you treat it?

1-conservative: massage, hot compress, AB ointment, local steroid.
2-surgery: surgical incision and curettage of the gland.

Ectropion of the right lower lid

What is the complaint of this patient?

Lacrimation, congested red conjunctiva, repeated infections.

What are the possible causes?

1-aging 2-congenital 3-lower lid scar
4-faiacl palsy 5-neurofibromas 6- mechanical cause

Entropion of the lower lid with trichiasis

What are the possible causes?
1-aging
2-congenital
3-palpebral conjunctival scaring
4- trachoma, trauma, infection, inflammation

Lens dislocation (ectopic lens)

What are the possible visual symptoms? Blurred vision and diplopia and refractive errors.
Enumerate three possible systemic causes:
1-trauma
2-marfan syndrome
3-homocystinuria
4-high myopia (eye problem)

Keratic precipitate (white dots in cornea)

What is your diagnosis? It is a feature of iritis or anterior uveitis
What do you think the presentation of this patient? Blurred vision, photophobia, pain, redness, and lacrimation.
Treatment:
1- topical: atropin sulphate and corticosteroid
2- systemic: steroids (severe cases) or AB (infected cases)

Herpes zoster ophthalmicus

Describe the skin lesion:
Erythematous base lesion with crust, pastule and some sloughing involving forehead and side of the nose and upper + lower lid of lift eye.
Describe the ocular lesion:
FLOURESCEIN stain showing corneal ulcer of left eye+ skin lesion involve upper + lower lid.

Thyrotoxicosis

Describe this facies:

Staring facies with periorbital edema

Enumerate four ocular features of this disease:

1-lid lag
2-lid retraction
3-exophthalmos
4-excessive lacrimation
5-Chemosis.
6-Periorbital soft tissue changes as chemosis & lid swelling.
7-Exposure keratopathy.
8-Ophthalmoplegia.

Enumerate four systemic features of this disease:

1-sweating 2-palpitation 3-tremor 4-tachycardia
5- Goitre 6- Increased appetite with loss of weight

What is this procedure? Eversion of upper lid

What are its benefits?

1-very simple
2-F.B. detection
3-papillae detection
4-follicular reaction detection
5- Arlet line of trachoma.
6- Giant papillary conjunctivitis.
7- Adrenochrome deposits.
8- Melanoma.
9- Conjunctival concretion.

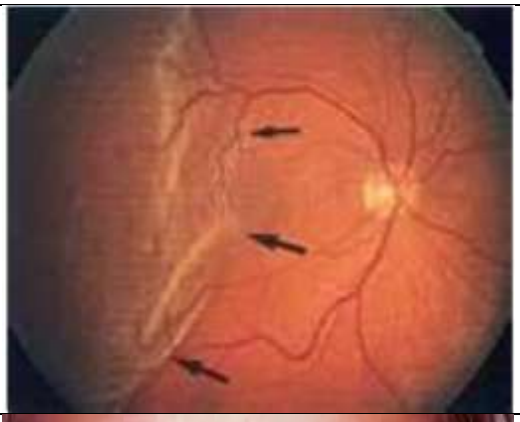
What is this procedure?

• Cover/uncover test

In which disease you want to use it in your examination?

• Used to detect inapparent squint (phoria)

Retinal detachment



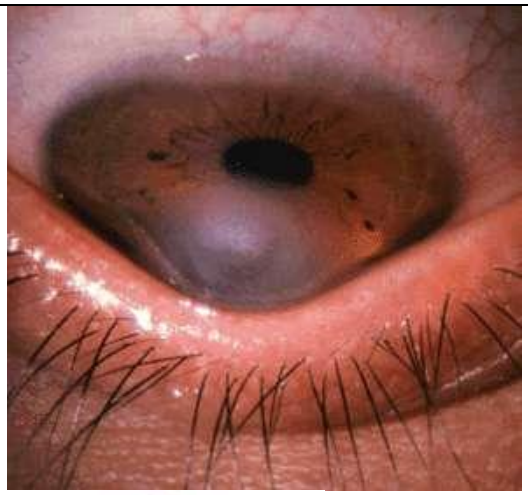
Left complete ptosis

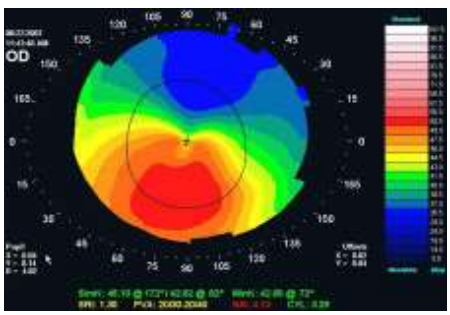
What are the possible causes?
1- 3rd palsy 2-congenital 3-birth injury 4-horner syndrome

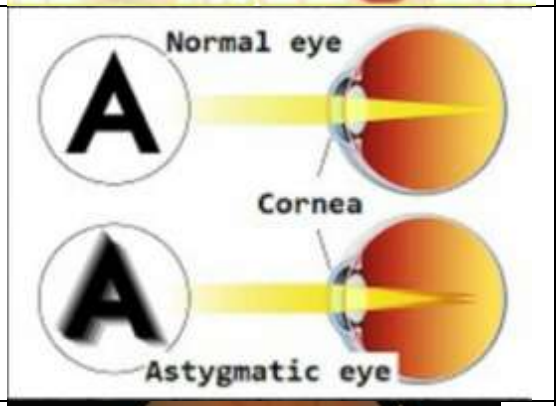
Would you go for surgery for this child? Yes, to avoid amblyopia or reduction of visual acuity and here we do sling procedure.

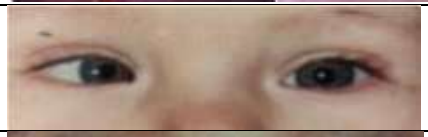
Munson sign

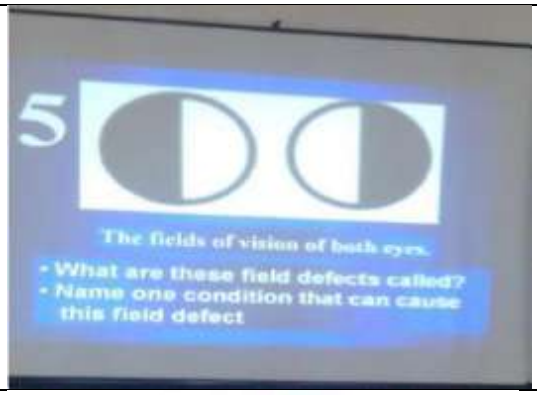
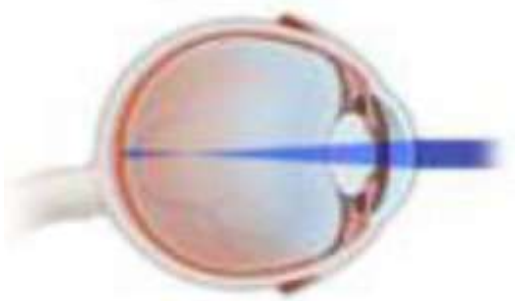
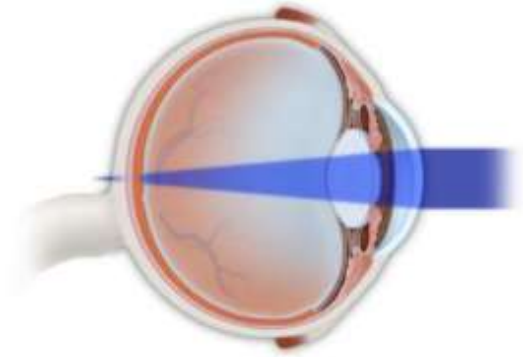
Describe what you see: This patient asked to look down, lower lid is seen pushed by cornea due to increased corneal curvature with opacity.
What is the disease? Keratoconus with acute hydrops
Significance: It is one of the common causes of reduction in visual acuity (myopia & Astigmatism).
Diagnosis of keratoconus:
1-Ask the patient to look down.
2-Placido disc.
3-Corneal topography (green normal, blue depression, red elevation).
4-Keratometry (give the reading in diopter).
What are the lines of treatment for this case?
1-contact lens or patching
2-hypertonic drops to cause withdrawal of hydrops
3-corneal graft
Lines of treatment of keratoconus in general:
1- Corneal Collagen Cross-linking, in early cases to arrest the disease
2- Glasses
3- Contact lenses (Rigid)
4- Shaving the corneal surface
5- Intra-stromal corneal rings
6- Penetrating keratoplasty or Lamellar keratoplasty..in advanced cases or corneal scarring





• Is it a concomitant or incomitant squint? incomitant • Which muscle is affected? Right lateral rectus • What is the nerve supply? Abducent nerve • concomitant: angle of squint not changed in different visual directions • incomitant: angle changed	
Marcus - Gunn phenomenon Pathogenesis: Faulty Innervation (motor fibers from 5th nerve reach levator instead of the 3rd nerve).	
Astigmatism Treatment: Cylindrical lenses & refractive eye surgery**.**	
Papilleodema Cause: Elevated intracranial tension.	

Chemosis Edema of the conjunctiva. Causes: 1) Conjunctivitis. 2) If drainage of blood & lymph from around the eye is obstructed.	
Describe: Upper eyelid eversion, follicular formation. Causes: Trachoma & viral conjunctivitis.	
Red congested eye Common Causes: 1- Conjunctivitis. 2- Acute iritis (ant. Uveitis). 3- Keratitis (Corneal Ulcer). 4- Angle closure glaucoma. 5- Episcleritis (& scleritis). 6- Subconjunctival hemorrhage. 7- Dry eye.	
Esotropia: convergent	
Exotropia: divergent	
Buphthalmos Surgical procedures: 1) Goniotomy. 2) Trabeculotomy.	

Bitemporal hemianopia Caused by: Optic chiasma lesions (nasal fibers damage) e.g. Pituitary gland tumor.	
Myopia <u>Correction is by:</u> Concave lenses (-) & refractive eye surgery. <u>Complications:</u> Retinal detachment, macular hole, open angle glaucoma.	
Hypermetropia <u>Correction is by:</u> Convex lenses (+) & refractive eye surgery. <u>Significance:</u> Angle closure glaucoma as a complication.	
<u>Error of refraction:</u> High myopia. <u>Complications:</u> 1) Chorio-retinal degenerations. 2) retinal tears. 3) retinal detachment.	
Symblepharon Causes: 1) Post-trachomatous. 2) Post-operative (Pterygium excision). 3) Ocular cicatricial pemphigoid.	

Corneal foreign body.

Treatment: Surgical removal.

F.B. in the inner surface of upper lid

Left partial ptosis

<u>Causes:</u>

1) Oculomotor nerve palsy.

2) Horner syndrome.

3) Birth trauma.

4) Congenital.

<u>Factors affecting prognosis & treatment:</u>

1) Is the pupil covered by the ptotic lid or not?

2) Are there significant refractive errors between the eyes?

<u>The significance is developing of amblyopia (causes):</u>

1) Strabismus amblyopia due to squint.

2) Anisometropic amblyopia due to deferent refractive errors.

3) Deprivational amblyopia.

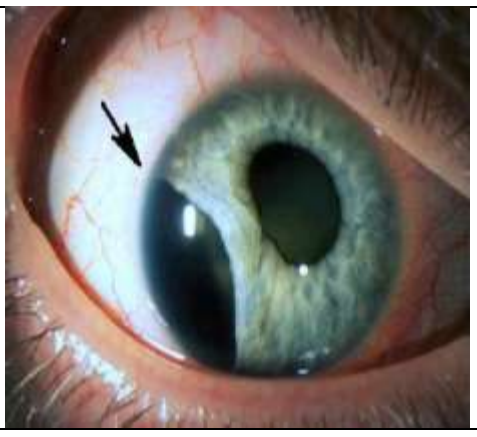
Iridodialysis

A dark crescentic gap at the edge of the iris where the tear has occurred.

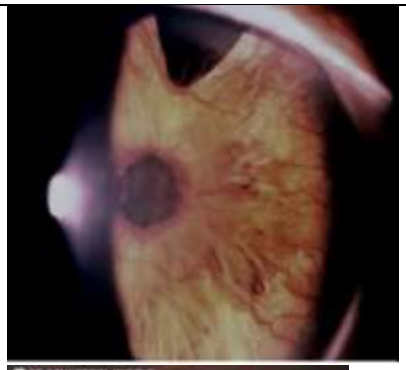
<u>Causes:</u> Trauma, Tumor excision.

<u>Patient complaint:</u> Uniocular diplopia.

<u>Treatment:</u> Surgical reduction and suturing of the iris.



Rubeosis iridis (Growth of blood vessels onto the iris) & Peripheral iridectomy



Causes:

1) Diabetic retinopathy.
2) Central retinal vein occlusion (CRVO).
3) Long standing retinal detachment.
4) Ocular ischemic syndrome.
5) Hyoptonus eye.
6) Long standing uveitis.
7) Uveal melanoma, Retinoblastoma.

Complication: Rubeotic glaucoma & prognosis is very bad.

Posterior Synechiae

Cause: Anterior uveitis (iritis).

Complications:

1) Band keratopathy.
2) Bulus keratopathy.
3) Cataract, Glaucoma.

Treatment:

1) Atropine & corticosteroid drops.
2) Surgical separation (synechialysis).

Mucopurulent conjunctivitis

Diffuse redness of the sclera with yellowish mucopurulent discharge & eyelid edema.

Cause: Trachoma.

Complications:

1) Membrane formation.
2) Subsequent scarring of the punctum.
3) Corneal ulcer.

Treatment:

1) Eye lotions, Hot foments.
2) Antibiotics ointments e.g. tobramycin at night.
3) Antibiotic eye drops (tetracycline).

Phlyctenular conjunctivitis

Small pinkish-yellow nodule surrounded by a zone of dilated blood vessels at corneoscleral junction.

Causes:

Hypersensitivity reaction (type 4) to endogenous antigens e.g. bacterial antigens as T.B & Chlamydia.

Ulcerative blepharitis

Erythema & crusting of the lashes and lid margins & adherence of the lashes with each other by oily debris.

Causes:

1) Herpes simplex & Varicella zoster dermatitis.
2) Allergic or contact dermatitis.
3) Bacterial infection (Staph.) is the usual pathogen.
4) Exposure to smoke, fumes & other irritants.
5) Sjogren syndrome may be present as blepharitis.

Complications:

Chronic conjunctivitis, Madarosis, trichiasis, Poliosis, epiphora, Ectropion, corneal ulcer.

Treatment:

1) Eyelid margin hygiene (warming, washing & application of antibiotic ointment to the lid margins).
2) Antibiotic – corticosteroid solutions to reduce inflammation if the cause is bacterial.
3) Antivirals.
4) Avoiding exposure to irritant materials.

Bulbar spring catarrhal

Treatment:

Avoiding exposure to the causative allergen, topical steroids, mast cell stabilizers, anti-histaminic dark glasses, cold compresses.

Ophthalmia neonatorum (neonatal conjunctivitis)

Causes:

1) Chemical (silver nitrate).
2) Bacterial (1st 3 days=Staph.aureus , after the 3rd day= Strept.peumonia , after the 1st week=Neisseria gonorrhea , after 12 days=Chlamydia).
3) after 15 days= H. influenza & herpes simplex virus).

Treatment:

1) Gonococcal infection treated by cefotaxime for 7 days.
2) Chlamydial infection by systemic erythromycin.
3) Herpes by I.V acyclovir.
4) Topical antibiotic for staph.

Stye

Red swelling of the upper eyelid due to inflammation of eyelash follicles.

<u>Causes:</u>

Bacterial infection staph. Aureus infection.

Treatment:

1) Local antibiotics & eye drops.
2) Bathing in warm water.
3) Removal of the eyelash involved.

Entropion with trichiasis & corneal ulceration

Retinopathy of prematurity

- in premature babies peripheral retina is not vascularised at birth
- Under certain conditions instead of the vascularisation proceeding normally, there is a growth of new vessels and scarring
- 100% oxygen, crucial period 28-36weeks, especially low birth weight
- vascularisation
- Laser peripheral retina
- Without laser,retinal detachment/blindness; have to check (screen) all appropriate neonates

Cicatricial ectropion

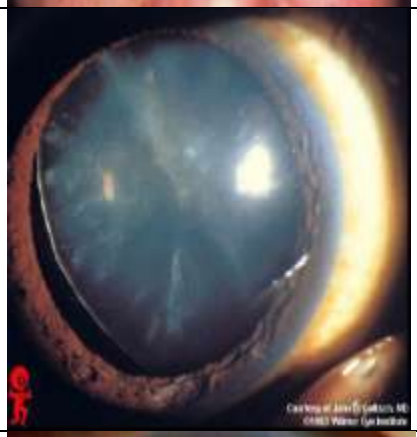
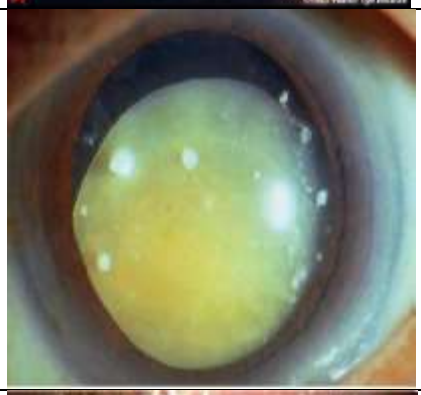
Treatment: V to Y plasty or Z plasty

Phlycten

Causes:

Hyper sensitivity to an endogenous antigen e.g. tuberculo-protein, Intestinal parasites, staphylococcal blepharoconjunctivitis.

Acute congestive glaucoma 2 Medications for emergency: hyper-osmotic agent, topical miotics, topical steroids Treatment: essentially surgical recent….surgical iridectomy late….their is PAS, an external fistulizing operation.	
Nerve& muscle affected: Right Abducent nerve - right lateral rectus Direction of gaze: To the right Main complaint: Binocular Diplopia	
Type of squint: exotropia angle: 30 Confirmatory test: Cover test	
After cataract Treatment: - No interference if vision is not affected - If thick : surgical intervention	
Senile ectropion Possible complications: 1- xerosis 2- corneal ulcer	

Ecchymosis & subconjunctival haemorrhage Possible findings: Concussion cataract " Rosette-shaped" Lens subluxation or dislocation	
Lens subluxation Causes: 1- Marfan's syndrome 2- Homocystenuria 3- Trauma 4- High myopia Symptoms: Blurred vision, diplopia, increase IOP, pupillary block (glaucoma), affected visual fields.	
Sublaxated & cataractous lens Complications: lens dislocation 2ry Glaucoma Iridocyclitis	
Blood staining of the cornea "total hyphema or 8-ball hyphema" Complications: Elevation of IOP Corneal staining	
Sederosis bulbi Patient with foreign body in his eye from one year In picture you will see one eye normal &other eye(black iris)	

Scotoma Area of blindness surrounded by area of vision due to lesions in specific regions of retina.	
Tunnel vision Only see the central part.	

By | Basel Alwassd